

1 I claim:

2 1. A portable air filtering apparatus comprising:

3 a face mask adapted to be held to a user's head by straps;

4 an exhaust filter positioned on said face mask;

5 at least one one-way inlet valve positioned on said face mask for optimal air flow
6 into said face mask;

7 a one-way outlet valve positioned over said exhaust filter for optimal exhaust release
8 through said exhaust filter and out of said face mask;

9 a blower housing adjacent said face mask defined by a pressure plenum and a
10 vacuum plenum;

11 at least one tube connecting said face mask directly to said blower housing;

12 a power means attached outside said blower housing;

13 a blower positioned within said blower housing having an air flow means and driven
14 by said power means;

15 flow openings through said blower housing; and

16 at least one filter cartridge removably attached outside said blower housing over said
17 flow openings.

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19 2. The portable air filtering apparatus of Claim 1 wherein said at least one filter
20 cartridge comprises two filters secured by wire mesh.

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1 3. The portable air filtering apparatus of Claim 2 further comprising a means for
2 securing said at least one filter cartridge to said blower housing.

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4 4. The portable air filtering apparatus of Claim 3 wherein said means for securing
5 said at least one filter cartridge to said blower housing comprises a rotation
6 assembly having channels located on said at least one filter cartridge and a
7 corresponding number of connectors placed on said blower housing.

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9 5. The portable air filtering apparatus of Claim 4 wherein said power means
10 comprises a battery cassette or an AC adaptor.

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12 6. The portable air filtering apparatus of Claim 5 wherein said air flow means
13 comprises a fan or impeller.

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15 7. The portable air filtering apparatus of Claim 6 wherein said at least one tube
16 connects to said face mask by way of a gasket.

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18 8. The portable air filtering apparatus of Claim 7 wherein said at least one tube
19 further comprises primary tubing connected to said blower housing and two lengths
20 of secondary tubing connected to said face mask.

1 9. The portable air filtering apparatus of Claim 8 wherein said primary tubing and
2 said secondary tubing are connected by way of a Y-connector.
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4 10. A method for use of a portable air filtering apparatus comprising the steps of:
5 verifying a filter cartridge located on a blower housing of said air filtering apparatus
6 is clean, said filter cartridge being removably attached to the outside of said
7 blower housing and covering flow openings on said blower housing;
8 positioning said blower housing on a user's body, said blower housing having a
9 blower positioned therein with an air flow means and driven by a power
10 means;
11 turning said air filtering apparatus to an ON position;
12 rotating said air flow means to begin air flow through said filter cartridge;
13 placing a face mask of said air filtering apparatus over said user's nose and mouth,
14 said face mask having an exhaust filter for removal of exhaled gases, at least
15 one one-way inlet valve positioned thereon for optimal air flow into said face
16 mask, and a one-way outlet valve positioned over said exhaust filter for
17 optimal removal of exhaled gases out of said face mask;
18 passing outside air through said filter cartridge forming filtered air;
19 flowing said filtered air through said flow openings into said blower housing; and
20 forcing said filtered air out of the blower housing into at least one tube for passage
21 to said face mask.

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2 11. The method for use of a portable air filtering apparatus of Claim 10 further
3 comprising the step of securing said filter cartridge to said blower housing.
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5 12. The method for use of a portable air filtering apparatus of Claim 11 wherein
6 said securing step further comprises rotating channels on said filter cartridge onto
7 connectors of said blower housing.
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9 13. The method for use of a portable air filtering apparatus of Claim 12 further
10 comprising connecting at least one tube to said face mask.
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12 14. The method for use of a portable air filtering apparatus of Claim 12 further
13 comprising connecting a primary tubing to said blower housing and two lengths of
14 secondary tubing to said face mask.
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16 15. The method for use of a portable air filtering apparatus of Claim 13 further
17 comprising connecting said primary tubing to said secondary tubing.
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19 16. The method for use of a portable air filtering apparatus of Claim 15 further
20 comprising isolating said power means from said blower housing and air flow means
21 so said blower housing and said air flow means can be easily cleaned and/or

1 sterilized.

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3 17. The method for use of a portable air filtering apparatus of Claim 16 further
4 comprising detaching said at least one tube and said face mask for replacement.

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6 18. The method for use of a portable air filtering apparatus of Claim 17 wherein
7 said power means comprises a motor.

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9 19. The method for use of a portable air filtering apparatus of Claim 18 wherein said
10 power means comprises a battery pack.

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